



SEQUENCE LISTING

<110> YOUNG, ANDREW
GEDULIN, BRONISLAVA

<120> METHODS FOR GLUCAGON SUPPRESSION

<130> 030639.0031.UTL (249/167 US)

<140> 09/889,331

<141> 2001-07-13

<150> PCT/US00/00942

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<151> 1999-04-30

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<151> 2000-01-10

<160> 239

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Microsoft word 97

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<213> Heloderma Horridum

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<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 1

His Ser Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 2

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<213> Heloderma Suspectum

<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 2

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser

20

25

30

Ser Gly Ala Pro Pro Pro Ser
35

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<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<400> 3

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 4

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<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (30)

<223> Gly in position 30 is amidated

<400> 4

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 5

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
Construct

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<221> MOD_RES

<222> (30)

<223> AMIDATION, Position 30 is Gly-NH2

<400> 5

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 6

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<220>
<223> Description of Artificial Sequence: Synthetic Construct

<220>
<221> MOD_RES
<222> (28)
<223> AMIDATION, Position 28 is Asn-NH2

<400> 6
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

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<220>
<223> Description of Artificial Sequence: Synthetic Construct

<220>
<221> MOD_RES
<222> (30)
<223> AMIDATION, Position 30 is Gly-NH2

<400> 7
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<222> (28)
<223> AMIDATION, Position 28 is Asn-NH2

<400> 8
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 9
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<222> (28)
<223> AMIDATION, Position 28 is Asn-NH2

<400> 9
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15
Ala Val Arg Leu Ala Ile Glu Phe Leu Lys Asn
20 25

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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

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<223> AMIDATION, Position 39 is Ser-NH2

<400> 11
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<223> AMIDATION, Position 39 is Ser-NH2

<400> 12
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
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Construct

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<400> 13
Tyr Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<400> 14
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Tyr
35

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<223> AMIDATION, Position 39 is Ser-NH2

<400> 15
His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
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<221> VARIANT
<222> (6)
<223> Xaa is naphthylalanine

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 16
His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 17

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic Construct

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<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 17

His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<223> Description of Artificial Sequence: Synthetic Construct

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<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 18

His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 19

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<223> Description of Artificial Sequence: Synthetic Construct

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<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 19

His Gly Glu Gly Thr Phe Thr Thr Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 20

His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<220>

<221> VARIANT

<222> (10)

<223> Xaa is pentylglycine

<400> 21

His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<220>
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<222> (10)
<223> Xaa is pentylglycine

<400> 22
His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

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<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<220>
<221> VARIANT
<222> (14)
<223> Xaa is pentylglycine

<400> 23
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

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<222> (14)
<223> Xaa is pentylglycine

<400> 24
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 25
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<222> (39)
<223> AMIDATION, Postion 39 is Ser-NH2

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<221> VARIANT
<222> (22)
<223> Xaa is naphthylalanine

<400> 25
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Xaa Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

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<220>
<223> Description of Artificial Sequence: Synthetic Construct

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<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 26
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Page 10

1 5 10 15
 Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala Pro Pro Pro Ser
 35

<210> 27
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 <223> Description of Artificial Sequence: Synthetic Construct

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 <222> (39)
 <223> AMIDATION, Position 39 is Ser-NH2

<400> 27
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala Pro Pro Pro Ser
 35

<210> 28
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<220>
 <223> Description of Artificial Sequence: Synthetic Construct

<220>
 <221> MOD_RES
 <222> (39)
 <223> AMIDATION, Position 39 is Ser-NH2

<400> 28
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala Pro Pro Pro Ser
 35

<210> 29
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<222> (23)
<223> Xaa at position 23 is tertiary-butylglycine

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 29
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 30
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Construct

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<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 30
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 31
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Construct

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 31
His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Page 12

20

25

30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 32

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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Construct

<220>

<221> VARIANT

<222> (31)

<223> Xaa at position 31 is thioproline

<220>

<221> VARIANT

<222> (36)..(38)

<223> Xaa at positions 36,37 and 38 is thioproline

<220>

<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 32

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 33

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic Construct

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<221> VARIANT

<222> (36)..(38)

<223> Xaa at positions 36, 37, and 38 is thioproline

<220>

<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 33

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 34
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<220>
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<222> (31)
<223> Xaa at position 31 is homoproline

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is homoproline

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 34
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

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<223> Description of Artificial Sequence: Synthetic Construct

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<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is homoproline

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 35
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 36

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<223> Description of Artificial Sequence: Synthetic Construct

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<222> (31)

<223> Xaa at position 31 is thioproline

<220>

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<222> (36)..(38)

<223> Xaa at positions 36,37, and 38 is thioproline

<220>

<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 36

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 37

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<223> Description of Artificial Sequence: Synthetic Construct

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<222> (31)

<223> Xaa at position 31 is homoproline

<220>

<221> VARIANT

<222> (36)..(38)

<223> Xaa at positions 36,37, and 38 is homoproline

<220>

<221> MOD_RES

<222> (39)

<223> AMIDATION, Position 39 is Ser-NH2

<400> 37

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 38
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<220>
<223> Description of Artificial Sequence: Synthetic Construct

<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is N-methylalanine

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37 and 38 is N-methylalanine

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 38
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 39
<211> 39
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<220>
<223> Description of Artificial Sequence: Synthetic Construct

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is N-methylalanine

<220>
<221> MOD_RES
<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 39
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
 35

<210> 40
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 <223> Description of Artificial Sequence: Synthetic Construct

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 <222> (31)
 <223> Xaa at position 31 is N-methylalanine

<220>
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 <222> (36)..(38)
 <223> Xaa at positions 36, 37, and 38 is N-methylalanine

<220>
 <221> MOD_RES
 <222> (39)
 <223> AMIDATION, Position 39 is Ser-NH2

<400> 40
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
 20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
 35

<210> 41
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<220>
 <223> Description of Artificial Sequence: Synthetic Construct

<220>
 <221> VARIANT
 <222> (1)
 <223> Xaa at position 1 is His, Arg or Tyr

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa at position 2 is Ser, Gly Ala, or Thr

<220>
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 <222> (3)
 <223> Xaa at position 3 is Asp or Glu

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 <222> (5)
 <223> Xaa at position 5 is Ala or Thr

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 <222> (6)
 <223> Xaa at position 6 is Ala, Phe, Tyr or
 naphthylalanine

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 <222> (7)
 <223> Xaa at position 7 is Thr or Ser

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 <222> (8)
 <223> Xaa at position 8 is Ala, Ser or Thr

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 <223> Xaa at position 9 is Asp or Glu

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 <222> (10)
 <223> Xaa at position 10 is Ala, Leu, Ile, Val,
 pentylglycine, or Met

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 <222> (11)
 <223> Xaa at position 11 is Ala or Ser

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 <222> (12)
 <223> Xaa at position 12 is Ala or Lys

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 <222> (13)
 <223> Xaa at position 13 is Ala or Gln

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 <222> (14)
 <223> Xaa at position 14 is Ala, Leu, Ile,
 pentylglycine, Val or Met

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 <223> Xaa at position 15 is Ala or Glu

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 <222> (16)..(17)
 <223> Xaa at position 16 and 17 is Ala or Glu

<220>

<221> VARIANT
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 <223> Xaa at position 19 is Ala or Val

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 <223> Xaa at position 20 is Ala or Arg

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 <223> Xaa at position 21 is Ala or Leu

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 <223> Xaa at position 22 is Ala, Phe, Tyr, or
 naphthylalanine

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 <223> Xaa at position 23 is Ile, Val, Leu,
 pentylglycine, tert-butylglycine, or Met

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 <222> (24)
 <223> Xaa at position 24 is Ala, Glu, or Asp

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 <222> (25)
 <223> Xaa at position 25 is Ala, Trp, Phe, Tyr or
 naphthylalanine

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 <221> VARIANT
 <222> (26)
 <223> Xaa at position 26 is Ala or Leu

 <220>
 <221> VARIANT
 <222> (27)
 <223> Xaa at position 27 is Ala or Lys

 <220>
 <221> VARIANT
 <222> (28)
 <223> Xaa at position 28 is Ala or Asn and is optionally
 amidated

 <220>
 <221> VARIANT
 <222> (29)
 <223> may be absent and if present is optionally amidated

 <220>
 <221> VARIANT
 <222> (30)
 <223> may be absent and if present is optionally amidated

 <220>

<221> VARIANT
 <222> (31)
 <223> Xaa at position 31 is Pro, homoproline, thioproline,
 N-alkylalanine or absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (32)
 <223> may be absent and if present is optionally amidated

<220>
 <221> VARIANT
 <222> (33)
 <223> may be absent and if present is optionally amidated

<220>
 <221> VARIANT
 <222> (34)
 <223> may be absent and if present is optionally amidated

<220>
 <221> VARIANT
 <222> (35)
 <223> may be absent and if present is optionally amidated

<220>
 <221> VARIANT
 <222> (36)
 <223> Xaa at position 36 is Pro, homoproline, thioproline,
 N-alkylalanine or absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (37)
 <223> Xaa at position 37 is Pro, homoproline, thioproline,
 N-alkylalanine or absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (38)
 <223> Xaa at position 38 is Pro, homoproline, thioproline,
 N-alkylalanine or absent and is optionally amidated

<400> 41
 Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
 20 25 30
 Ser Gly Ala Xaa Xaa Xaa
 35

<210> 42
 <211> 39
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Construct

<220>
 <221> VARIANT
 <222> (1)
 <223> Xaa at position 1 is His, Arg, Tyr, Ala,
 norvaline, Val, or norleucine

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa at position 2 is Ser, Gly, Ala, or Thr

<220>
 <221> VARIANT
 <222> (3)
 <223> Xaa at position 3 is Ala, Asp, or Glu

<220>
 <221> VARIANT
 <222> (4)
 <223> Xaa at position 4 is Ala, norvaline, Val,
 norleucine or Gly

<220>
 <221> VARIANT
 <222> (5)
 <223> Xaa at position 5 is Ala or Thr

<220>
 <221> VARIANT
 <222> (6)
 <223> Xaa at position 6 is Phe, Tyr, or naphthylalanine

<220>
 <221> VARIANT
 <222> (7)
 <223> Xaa at position 7 is Thr or Ser

<220>
 <221> VARIANT
 <222> (8)
 <223> Xaa at position 8 is Ala, Ser, or Thr

<220>
 <221> VARIANT
 <222> (9)
 <223> Xaa at position 9 is Ala, norvaline, norleucine,
 Asp or Glu

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa at position 10 is Ala, Leu, Ile, Val,
 pentylglycine, or Met

<220>
 <221> VARIANT
 <222> (11)
 <223> Xaa at position 11 is Ala or Ser

<220>
 <221> VARIANT
 <222> (12)
 <223> Xaa at position 12 is Ala or Lys

<220>
 <221> VARIANT
 <222> (13)
 <223> Xaa at position 13 is Ala or Gln

<220>
 <221> VARIANT
 <222> (14)
 <223> Xaa at position 14 is Ala, Leu, Ile,
 pentylglycine, Val or Met

<220>
 <221> VARIANT
 <222> (15)..(17)
 <223> Xaa at positions 15, 16, and 17 is Ala or Glu

<220>
 <221> VARIANT
 <222> (19)
 <223> Xaa at position 19 is Ala or Val

<220>
 <221> VARIANT
 <222> (20)
 <223> Xaa at position 20 is Ala or Arg

<220>
 <221> VARIANT
 <222> (21)
 <223> Xaa at position 21 is Ala or Leu

<220>
 <221> VARIANT
 <222> (22)
 <223> Xaa at position 22 is Phe, Tyr or naphthylalanine

<220>
 <221> VARIANT
 <222> (23)
 <223> Xaa at position 23 is Ile, Val, Leu,
 pentylglycine, tert-butylglycine or Met

<220>
 <221> VARIANT
 <222> (24)
 <223> Xaa at position 24 is Ala, Glu or Asp

<220>
 <221> VARIANT
 <222> (25)
 <223> Xaa at position 25 is Ala, Trp, Phe, Tyr or
 naphthylalanine

<220>
 <221> VARIANT
 <222> (26)
 <223> Xaa at position 26 is Ala or Leu

<220>
 <221> VARIANT
 <222> (27)
 <223> Xaa at position 27 is Ala or Lys

<220>

<221> VARIANT
 <222> (28)
 <223> Xaa at position 28 is Ala or Asn

<220>
 <221> VARIANT
 <222> (29)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (30)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent

<220>
 <221> VARIANT
 <222> (32)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (33)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (34)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (35)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (36)
 <223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

<220>
 <221> VARIANT
 <222> (37)
 <223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

<220>
 <221> VARIANT
 <222> (38)
 <223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

<220>
 <221> VARIANT
 <222> (39)

<223> Xaa at position 39 is Ser, Tyr or absent and is optionally amidated

<400> 42

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 43

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa at position 1 is His or Arg

<220>

<221> VARIANT

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<223> Xaa at position 2 is Gly or Ala

<220>

<221> VARIANT

<222> (3)

<223> Xaa at position 3 is Asp or Glu

<220>

<221> VARIANT

<222> (5)

<223> Xaa at position 5 is Ala or Thr

<220>

<221> VARIANT

<222> (6)

<223> Xaa at position 6 is Ala, Phe, or naphthylalanine

<220>

<221> VARIANT

<222> (7)

<223> Xaa at position 7 is Ser, or Thr

<220>

<221> VARIANT

<222> (8)

<223> Xaa at position 8 is Ala, Ser, or Thr

<220>

<221> VARIANT

<222> (9)

<223> Xaa at position 9 is Asp or Glu

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa at position 10 is Ala, Leu, or pentylglycine

<220>
 <221> VARIANT
 <222> (11)
 <223> Xaa at position 11 is Ala or Ser

<220>
 <221> VARIANT
 <222> (12)
 <223> Xaa at position 12 is Ala or Lys

<220>
 <221> VARIANT
 <222> (13)
 <223> Xaa at position 13 Ala or Gln

<220>
 <221> VARIANT
 <222> (14)
 <223> Xaa at position 14 is Ala, Leu or pentylglycine

<220>
 <221> VARIANT
 <222> (15)..(17)
 <223> Xaa at positions 15, 16, and 17 is Ala or Glu

<220>
 <221> VARIANT
 <222> (19)
 <223> Xaa at position 19 is Ala or Val

<220>
 <221> VARIANT
 <222> (20)
 <223> Xaa at position 20 is Ala or Arg

<220>
 <221> VARIANT
 <222> (21)
 <223> Xaa at position 21 is Ala or Leu

<220>
 <221> VARIANT
 <222> (22)
 <223> Xaa at position 22 is Phe or naphthylalanine

<220>
 <221> VARIANT
 <222> (23)
 <223> Xaa at position 23 is Ile, Val or
 tert-butylglycine

<220>
 <221> VARIANT
 <222> (24)
 <223> Xaa at position 24 is Ala, Glu or Asp

<220>
 <221> VARIANT
 <222> (25)

<223> Xaa at position 25 is Ala, Trp or Phe
 <220>
 <221> VARIANT
 <222> (26)
 <223> Xaa at position 26 is Ala or Leu
 <220>
 <221> VARIANT
 <222> (27)
 <223> Xaa at position is Ala or Lys
 <220>
 <221> VARIANT
 <222> (28)
 <223> Xaa at position 28 is Ala or Asn
 <220>
 <221> VARIANT
 <222> (29)
 <223> may be absent and is optionally amidated
 <220>
 <221> VARIANT
 <222> (30)
 <223> may be absent and is optionally amidated
 <220>
 <221> VARIANT
 <222> (31)
 <223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated
 <220>
 <221> VARIANT
 <222> (32)
 <223> may be absent and is optionally amidated
 <220>
 <221> VARIANT
 <222> (33)
 <223> may be absent and is optionally amidated
 <220>
 <221> VARIANT
 <222> (34)
 <223> may be absent and is optionally amidated
 <220>
 <221> VARIANT
 <222> (35)
 <223> may be absent and is optionally amidated
 <220>
 <221> VARIANT
 <222> (36)
 <223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated
 <220>
 <221> VARIANT
 <222> (37)

<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (38)

<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<400> 43

Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 44

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 is His or Ala

<220>

<221> VARIANT

<222> (2)

<223> Xaa in position 2 is Gly or Ala

<220>

<221> VARIANT

<222> (3)

<223> Xaa in position 3 is Ala, Asp or Glu

<220>

<221> VARIANT

<222> (4)

<223> Xaa in position 4 is Ala or Gly

<220>

<221> VARIANT

<222> (5)

<223> Xaa in position 5 is Ala or Thr

<220>

<221> VARIANT

<222> (6)

<223> Xaa in position 6 is Phe or naphthylalanine

<220>

<221> VARIANT

<222> (7)
 <223> Xaa in position 7 is Thr or Ser

 <220>
 <221> VARIANT
 <222> (8)
 <223> Xaa in position 8 is Ala, Ser or Thr

 <220>
 <221> VARIANT
 <222> (9)
 <223> Xaa in position 9 is Ala, Asp or Glu

 <220>
 <221> VARIANT
 <222> (10)
 <223> Xaa in position 10 is Ala, Leu or pentylglycine

 <220>
 <221> VARIANT
 <222> (11)
 <223> Xaa in position 11 is Ala or Ser

 <220>
 <221> VARIANT
 <222> (12)
 <223> Xaa in position 12 is Ala or Lys

 <220>
 <221> VARIANT
 <222> (13)
 <223> Xaa in position 13 is Ala or Gln

 <220>
 <221> VARIANT
 <222> (14)
 <223> Xaa in position 14 is Ala, Leu, Met or
 pentylglycine

 <220>
 <221> VARIANT
 <222> (15)..(17)
 <223> Xaa in positions 15, 16 & 17 is Ala or Glu

 <220>
 <221> VARIANT
 <222> (19)
 <223> Xaa in position 19 is Ala or Val

 <220>
 <221> VARIANT
 <222> (20)
 <223> Xaa in position 20 is Ala or Arg

 <220>
 <221> VARIANT
 <222> (21)
 <223> Xaa in position 21 is Ala or Leu

 <220>
 <221> VARIANT
 <222> (22)
 <223> Xaa at position 22 is Phe or naphthylalanine

<220>
 <221> VARIANT
 <222> (23)
 <223> Xaa at position 23 is Ile, Val or
 tert-butylglycine

<220>
 <221> VARIANT
 <222> (24)
 <223> Xaa at position 24 is Ala, Glu or Asp

<220>
 <221> VARIANT
 <222> (25)
 <223> Xaa at position 25 is Ala, Trp or Phe

<220>
 <221> VARIANT
 <222> (26)
 <223> Xaa at position 26 is Ala or Leu

<220>
 <221> VARIANT
 <222> (27)
 <223> Xaa at position 27 is Ala or Lys

<220>
 <221> VARIANT
 <222> (28)
 <223> Xaa at position 28 is Ala or Asn

<220>
 <221> VARIANT
 <222> (29)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (30)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

<220>
 <221> VARIANT
 <222> (32)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (33)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (34)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (35)
 <223> may be absent and is optionally amidated

 <220>
 <221> VARIANT
 <222> (36)
 <223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

 <220>
 <221> VARIANT
 <222> (37)
 <223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

 <220>
 <221> VARIANT
 <222> (38)
 <223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

 <220>
 <221> VARIANT
 <222> (39)
 <223> may be absent and is optionally amidated

 <400> 44
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
 20 25 30
 Ser Gly Ala Xaa Xaa Xaa Ser
 35

 <210> 45
 <211> 38
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Construct

 <220>
 <221> VARIANT
 <222> (1)
 <223> Xaa in position 1 is His, Arg, Tyr or
 4-imidazopropionyl

 <220>
 <221> VARIANT
 <222> (2)
 <223> Xaa in positon 2 is Ser, Gly, Ala or Thr

 <220>

<221> VARIANT
 <222> (3)
 <223> Xaa in position 3 is Asp or Glu

 <220>
 <221> VARIANT
 <222> (5)
 <223> Xaa in position 5 is Ala or Thr

 <220>
 <221> VARIANT
 <222> (6)
 <223> Xaa in position 6 is Ala, Phe, Tyr or
 naphthylalanine

 <220>
 <221> VARIANT
 <222> (7)
 <223> Xaa in position 8 is Thr or Ser

 <220>
 <221> VARIANT
 <222> (8)
 <223> Xaa in position 8 is Ala, Ser or Thr

 <220>
 <221> VARIANT
 <222> (9)
 <223> Xaa in position 9 is Asp or Glu

 <220>
 <221> VARIANT
 <222> (10)
 <223> Xaa in position 10 is Ala, Leu, Ile, Val,
 pentylglycine or Met

 <220>
 <221> VARIANT
 <222> (11)
 <223> Xaa in position 11 is Ala or Ser

 <220>
 <221> VARIANT
 <222> (12)
 <223> Xaa in position 12 is Ala or Lys

 <220>
 <221> VARIANT
 <222> (13)
 <223> Xaa in position 13 is Ala or Gln

 <220>
 <221> VARIANT
 <222> (14)
 <223> Xaa in position 14 is Ala, Leu, Ile,
 pentylglycine, Val or Met

 <220>
 <221> VARIANT
 <222> (15)..(17)
 <223> Xaa in positions 15, 16 & 17 is Ala or Glu

 <220>
 <221> VARIANT

<222> (19)
 <223> Xaa in position 19 is Ala or Val

 <220>
 <221> VARIANT
 <222> (20)
 <223> Xaa in position 20 is Ala or Arg

 <220>
 <221> VARIANT
 <222> (21)
 <223> Xaa in position 21 is Ala, Leu, Lys-NH₃-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkanoyl

 <220>
 <221> VARIANT
 <222> (22)
 <223> Xaa in position 22 is Phe, Tyr, or naphthylalanine

 <220>
 <221> VARIANT
 <222> (23)
 <223> Xaa at position 23 is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met

 <220>
 <221> VARIANT
 <222> (24)
 <223> Xaa at position 24 is Ala, Glu or Asp

 <220>
 <221> VARIANT
 <222> (25)
 <223> Xaa at position 25 is Ala, Trp, Phe, Tyr or naphthylalanine

 <220>
 <221> VARIANT
 <222> (26)
 <223> Xaa at position 26 is Ala or Leu

 <220>
 <221> VARIANT
 <222> (27)
 <223> Xaa at position 27 is Lys, Asn, Ala, Lys-NH-epsilon-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl and is optionally amidated

 <220>
 <221> VARIANT
 <222> (28)
 <223> Xaa at position 28 is Lys, Asn, Ala, Lys-NH-epsilon-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl and is optionally amidated

 <220>
 <221> VARIANT
 <222> (29)
 <223> may be absent and is optionally amidated

<220>
 <221> VARIANT
 <222> (30)
 <223> may be absent and is optionally amidated

 <220>
 <221> VARIANT
 <222> (31)
 <223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

 <220>
 <221> VARIANT
 <222> (32)
 <223> may be absent and is optionally amidated

 <220>
 <221> VARIANT
 <222> (33)
 <223> may be absent and is optionally amidated

 <220>
 <221> VARIANT
 <222> (34)
 <223> may be absent and is optionally amidated

 <220>
 <221> VARIANT
 <222> (35)
 <223> may be absent and is optionally amidated

 <220>
 <221> VARIANT
 <222> (36)
 <223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

 <220>
 <221> VARIANT
 <222> (37)
 <223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

 <220>
 <221> VARIANT
 <222> (38)
 <223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
 N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
 and is optionally amidated

<400> 45
 Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Xaa Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
 20 25 30
 Ser Gly Ala Xaa Xaa Xaa
 35

<210> 46
 <211> 39
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic Construct

<220>
 <221> VARIANT
 <222> (1)
 <223> Xaa in position 1 is His, Arg, Tyr, Ala, norvaline, Val norleucine, or 4-imidazopropionyl

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa in position 2 is Ser, Gly, Ala, or Thr

<220>
 <221> VARIANT
 <222> (3)
 <223> Xaa in position 3 is Ala, Asp, or Glu

<220>
 <221> VARIANT
 <222> (4)
 <223> Xaa in position 4 is Ala, norvaline, Val, norleucine or Gly

<220>
 <221> VARIANT
 <222> (5)
 <223> Xaa in position 5 is Ala or Thr

<220>
 <221> VARIANT
 <222> (6)
 <223> Xaa in position 6 is Phe, Tyr or naphthylalanine

<220>
 <221> VARIANT
 <222> (7)
 <223> Xaa in position 7 is Thr or Ser

<220>
 <221> VARIANT
 <222> (8)
 <223> Xaa in position 8 is Ala, Ser or Thr

<220>
 <221> VARIANT
 <222> (9)
 <223> Xaa in position 9 is Ala, Norvaline, Val, Norleucine, Asp or Glu

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa in position 10 is Ala, Leu, Ile, Val, pentylglycine or Met

<220>
 <221> VARIANT
 <222> (11)
 <223> Xaa in position 11 is Ala or Ser

<220>
 <221> VARIANT
 <222> (12)
 <223> Xaa in position 12 is Ala or Lys

<220>
 <221> VARIANT
 <222> (13)
 <223> Xaa in position 13 is Ala or Gln

<220>
 <221> VARIANT
 <222> (14)
 <223> Xaa in position 14 is Ala, Leu, Ile, pentylglycine
 Val or Met

<220>
 <221> VARIANT
 <222> (15)..(17)
 <223> Xaa in positions 15, 16 & 17 stands for Ala or Glu

<220>
 <221> VARIANT
 <222> (19)
 <223> Xaa in position 19 is Ala or Val

<220>
 <221> VARIANT
 <222> (20)
 <223> Xaa in position 20 is Ala or Arg

<220>
 <221> VARIANT
 <222> (21)
 <223> Xaa in position 21 is Ala, Leu or Lys-NH₃ where R
 is Lys, Arg, C1-C10 straight chain or branched
 alkanoyl or cycloalylel-alkanoyl

<220>
 <221> VARIANT
 <222> (22)
 <223> Xaa at position 22 is Phe, Tyr or naphthylalanine

<220>
 <221> VARIANT
 <222> (23)
 <223> Xaa at position 23 is Ile, Val, Leu, pentylglycine,
 tert-butylglycine or Met

<220>
 <221> VARIANT
 <222> (24)
 <223> Xaa at position 24 is Ala, Glu or Asp

<220>
 <221> VARIANT
 <222> (25)
 <223> Xaa at position 25 is Ala, Trp, Phe, Tyr

or naphthylalanine

<220>
<221> VARIANT
<222> (26)
<223> Xaa at position 26 is Ala or Leu

<220>
<221> VARIANT
<222> (27)
<223> Xaa at position 27 is Lys, Asn, Ala, Lys-NH-epsilon-R
where R is Lys, Arg, C1-C10 straight chain or
branched alkanoyl or cycloalkylalkanoyl and is
optionally amidated

<220>
<221> VARIANT
<222> (28)
<223> Xaa at position 28 is Lys, Asn, Ala, Lys-NH-epsilon-R
where R is Lys, Arg, C1-C10 straight chain or
branched alkanoyl or cycloalkylalkanoyl and is
optionally amidated

<220>
<221> VARIANT
<222> (29)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (30)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>
<221> VARIANT
<222> (32)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (33)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (34)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (35)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (36)
<223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline

N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (37)

<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (38)

<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (39)

<223> Xaa at position 39 is Ser, Tyr or absent and is optionally
amidated

<400> 46

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 47

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 is His, Arg or Thr

<220>

<221> VARIANT

<222> (2)

<223> Xaa in position 2 is Ser, Gly, Ala, or Thr

<220>

<221> VARIANT

<222> (3)

<223> Xaa in position 3 is Asp or Glu

<220>

<221> VARIANT

<222> (6)

<223> Xaa in position 6 is Phe, Tyr or naphthalanine

<220>
 <221> VARIANT
 <222> (7)
 <223> Xaa in position 7 is Thr or Ser

<220>
 <221> VARIANT
 <222> (8)
 <223> Xaa in position 8 is Ser or Thr

<220>
 <221> VARIANT
 <222> (9)
 <223> Xaa in position 9 is Asp or Glu

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa in position 10 is Leu, Ile, Val, pentylglycine
 or Met

<220>
 <221> VARIANT
 <222> (14)
 <223> Xaa at position 14 is Leu, Ile, pentylglycine,
 Val or Met

<220>
 <221> VARIANT
 <222> (22)
 <223> Xaa in position 22 is Phe, Tyr or naphthylalanine

<220>
 <221> VARIANT
 <222> (23)
 <223> Xaa in position 23 is Ile, Val, Leu,
 pentylglycine, tert-butylglycine or Met

<220>
 <221> VARIANT
 <222> (24)
 <223> Xaa in position 24 is Glu or Asp

<220>
 <221> VARIANT
 <222> (25)
 <223> Xaa in position 25 is Trp, Phe, Tyr or
 naphthylalanine

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa in position 31 is independently Pro,
 homoproline, 3-hydroxyproline, 4-hydroxyproline,
 thioproline, N-alkylglycine, N-alkylpentylglycine
 or N-alkylalanine

<220>
 <221> VARIANT
 <222> (36)..(38)
 <223> Xaa in positions 36, 37 & 38 is independently Pro,
 homoproline, 3-hydroxyproline, 4-hydroxyproline,
 thioproline, N-alkylglycine, N-alkylpentylglycine

or N-alkylalanine

<220>
<221> VARIANT
<222> (39)
<223> Xaa in position 39 is Ser, Thr or Tyr and is optionally amidated

<400> 47
Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser
20 25 30
Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 48
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Construct

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 is His, Arg, Tyr or 4-imidazopropionyl

<220>
<221> VARIANT
<222> (2)
<223> Xaa in position 2 is Ser, Gly, Ala or Thr

<220>
<221> VARIANT
<222> (3)
<223> Xaa in position 3 is Asp or Glu

<220>
<221> VARIANT
<222> (6)
<223> Xaa in position 6 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (7)..(8)
<223> Xaa in positions 7 & 8 is Thr or Ser

<220>
<221> VARIANT
<222> (9)
<223> Xaa in position 9 is Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa in position 10 is Leu, Ile, Val, pentylglycine

or Met

<220>
<221> VARIANT
<222> (14)
<223> Xaa at position 14 is Leu, Ile, pentylglycine,
Val or Met

<220>
<221> VARIANT
<222> (22)
<223> Xaa in position 22 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (23)
<223> Xaa in position 23 is Ile, Val, Lu, pentylglycine,
tert-butylglycine or Met

<220>
<221> VARIANT
<222> (24)
<223> Xaa in position 24 is Glu or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa in position 25 is Trp, Phe, Tyr, or
naphthylalanine

<220>
<221> VARIANT
<222> (27)
<223> Xaa at position 27 is Lys, Asn, Ala, Lys-NH-epsilon-R
where R is Lys, Arg, C1-C10 straight chain or
branched alkanoyl or cycloalkylalkanoyl

<220>
<221> VARIANT
<222> (28)
<223> Xaa at position 28 is Lys, Asn, Ala, Lys-NH-epsilon-R
where R is Lys, Arg, C1-C10 straight chain or
branched alkanoyl or cycloalkylalkanoyl

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position is independently Pro,
homoproline, 3-hydroxyproline, 4-hydroxyproline,
thioprolin, N-alkylglycine, N-alkylpentylglycine
or N-alkylalanine

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa in positions 36-38 is independently Pro,
homoproline, 3-hydroxyproline, 4-hydroxyproline,
thioprolin, N-alkylglycine, N-alkylpentylglycine
or N-alkylalanine

<220>
<221> VARIANT

<222> (39)
<223> Xaa in position 39 is Ser, Thr or Tyr and is optionally
amidated

<400> 48
Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Xaa Xaa Gly Gly Xaa Ser
20 25 30
Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 49
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (30)
<223> Gly in position 30 is amidated

<400> 49
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 50
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 50
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 51
<211> 28
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 51

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 52

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 52

His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 53

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 53

His Gly Glu Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 54

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 54

His Gly Glu Gly Thr Ala Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 55

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 55

His Gly Glu Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 56

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 56

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 57

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 57
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 58
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 58
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 59
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 59
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 60
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 60
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 61
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 61
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Ala Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 62
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 62
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Ala
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 63
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 63
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 64
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 64
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 65
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 65
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Ala Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 66
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION

<222> (28)
 <223> Asn in position 28 is amidated

 <400> 66
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
 20 25

 <210> 67
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

 <400> 67
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Ala Phe Leu Lys Asn
 20 25

 <210> 68
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

 <400> 68
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
 20 25

 <210> 69
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> AMIDATION
 <222> (28)

<223> Asn in position 28 is amidated

<400> 69

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn
20 25

<210> 70

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 70

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
20 25

<210> 71

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Ala in position 28 is amidated

<400> 71

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
20 25

<210> 72

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (38)

<223> Pro in position 38 is amidated

<400> 72
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly Ala Pro Pro Pro
 35

<210> 73
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (38)
 <223> Pro in position 38 is amidated

<400> 73
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly Ala Pro Pro Pro
 35

<210> 74
 <211> 37
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (37)
 <223> Pro in position 37 is amidated

<400> 74
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly Ala Pro Pro
 35

<210> 75
 <211> 37
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (37)

<223> Pro in position 37 is amidated

<400> 75

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro
35

<210> 76

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (36)

<223> Pro in position 36 is amidated

<400> 76

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro
35

<210> 77

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (36)

<223> Pro in position 36 is amidated

<400> 77

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro

35

<210> 78
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (35)
<223> Ala in position 35 is amidated

<400> 78
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala
35

<210> 79
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (35)
<223> Ala in position 35 is amidated

<400> 79
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala
35

<210> 80
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (34)
<223> Gly in position 34 is amidated

<400> 80
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly

<210> 81
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (34)
 <223> Gly in position 34 is amidated

<400> 81
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly

<210> 82
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (33)
 <223> Ser in position 33 is amidated

<400> 82
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser

<210> 83
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (33)

<223> Ser in position 33 is amidated

<400> 83

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser

<210> 84

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (32)

<223> Ser in position 32 is amidated

<400> 84

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

<210> 85

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (32)

<223> Ser in position 32 is amidated

<400> 85

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

<210> 86

<211> 31

<212> PRT

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (31)
 <223> Pro in position 31 is amidated

<400> 86
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro
 20 25 30

<210> 87
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (31)
 <223> Pro in position 31 is amidated

<400> 87
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro
 20 25 30

<210> 88
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (30)
 <223> Gly in position 30 is amidated

<400> 88
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly
 20 25 30

<210> 89
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 89
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
20 25

<210> 90
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 90
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
20 25

<210> 91
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position 31 is tPro

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa in positions 36-38 is tPro

<220>
<221> AMIDATION
<222> (38)
<223> tPro in position 38 is amidated

<400> 91
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 92
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (36)...(38)
<223> Xaa in positions 36-38 is tPro

<220>
<221> AMIDATION
<222> (38)
<223> tPro in position 38 is amidated

<400> 92
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 93
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position 31 stands for Nme

<220>
<221> AMIDATION
<222> (37)
<223> Pro in position 37 is amidated

<400> 93
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Pro Pro

<210> 94
 <211> 37
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa in position 31 is Nme

<220>
 <221> VARIANT
 <222> (36)..(37)
 <223> Xaa in positions 36-37 is Nme

<220>
 <221> AMIDATION
 <222> (37)
 <223> Nme in position 37 is amidated

<400> 94
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
 20 25 30

Ser Gly Ala Xaa Xaa
 35

<210> 95
 <211> 37
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa in position 31 stands for hPro

<220>
 <221> VARIANT
 <222> (36)..(37)
 <223> Xaa in positions 36-37 stands for hPro

<220>
 <221> AMIDATION
 <222> (37)
 <223> hPro in position 37 is amidated

<400> 95
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa
35

<210> 96
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position 31 stands for hPro

<220>
<221> VARIANT
<222> (36)
<223> Xaa in position 36 stands for hPro

<220>
<221> AMIDATION
<222> (36)
<223> hPro in position 36 is amidated

<400> 96
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa
35

<210> 97
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (35)
<223> Ala in position 35 is amidated

<400> 97
Arg Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala
35

<210> 98
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (30)
<223> Gly in position 30 is amidated

<400> 98
His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 99
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (6)
<223> Xaa in position 6 stands for naph

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 99
His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 100
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 100
His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu

| | | | |
|-----|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Glu | Ala | Val | Arg |
| | 20 | Leu | Phe |
| | | Ile | Glu |
| | | Trp | Leu |
| | | Lys | Asn |
| | | 25 | |

<210> 101
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

| |
|-----------------------------------------------------------------|
| <400> 101 |
| His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu |
| 1 5 10 15 |

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ala | Val | Arg | Leu | Phe | Ile | Glu | Trp | Leu | Lys | Asn |
| | | | 20 | | | | | 25 | | | |

<210> 102
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

| |
|-----------------------------------------------------------------|
| <400> 102 |
| His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Ala Glu |
| 1 5 10 15 |

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ala | Val | Arg | Leu | Phe | Ile | Glu | Trp | Leu | Lys | Asn |
| | | | 20 | | | | | 25 | | | |

<210> 103
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa in position 10 stands for pGly

<220>
 <221> AMIDATION
 <222> (28)

<223> Asn in position 28 is amidated

<400> 103

His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 104

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (22)

<223> Xaa in position 22 stands for naph

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 104

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
20 25

<210> 105

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (23)

<223> Xaa in position 23 stands for tBug

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 105

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
20 25

<210> 106

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 106

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
20 25

<210> 107

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (33)

<223> Ser in position 33 is amidated

<400> 107

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser

<210> 108

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (29)

<223> Gly in position 29 is amidated

<400> 108

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
20 25

<210> 109

<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position 31 stands for hPro

<220>
<221> VARIANT
<222> (36)..(37)
<223> Xaa in positions 36-37 stands for hPro

<220>
<221> AMIDATION
<222> (37)
<223> hPro in position 37 is amidated

<400> 109
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30
Ser Gly Ala Xaa Xaa
35

<210> 110
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (26)
<223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (27)
<223> Asn in position 27 is amidated

<400> 110
Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15
Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn
20 25

<210> 111
 <211> 27
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (1)
 <223> Xaa in position 1 stands for
 4-Imidazolylpropionyl-Gly

<220>
 <221> VARIANT
 <222> (26)
 <223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

<220>
 <221> AMIDATION
 <222> (27)
 <223> Asn in position 27 is amidated

<400> 111
 Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
 1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn
 20 25

<210> 112
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (1)
 <223> Xaa in position 1 stands for
 4-Imidazolylpropionyl-Gly

<220>
 <221> VARIANT
 <222> (26)
 <223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

<220>
 <221> AMIDATION
 <222> (29)
 <223> Gly in position 29 is amidated

<400> 112
 Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
 1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn Gly Gly
 20 25

<210> 113
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (26)
<223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 113
Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn Gly Gly
20 25

<210> 114
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (27)
<223> Lys-NH(epsilon) octanoyl in position 27 is amidated

<400> 114
Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa
20 25

<210> 115
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (27)
<223> Lys-NH(epsilon) octanoyl in position 27 is amidated

<400> 115
Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa
20 25

<210> 116
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 116
Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa Gly Gly
20 25

<210> 117
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 117
Xaa Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa Gly Gly
20 25

<210> 118
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 118
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 119
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 119
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 120
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 120
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 121
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 121
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 122
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION

<222> (28)
 <223> Asn in position 28 is amidated

 <400> 122
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
 20 25

 <210> 123
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

 <400> 123
 His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
 20 25

 <210> 124
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

 <400> 124
 His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
 20 25

 <210> 125
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> AMIDATION
 <222> (28)

<223> Asn in position 28 is amidated

<400> 125

His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 126

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 126

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 127

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 127

Ala Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 128

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (28)

<223> Asn in position 28 is amidated

<400> 128
Ala Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 129
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 129
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 130
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (28)
<223> Asn in position 28 is amidated

<400> 130
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 131
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Ala Gly Asp Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<223> Xaa in position 6 stands for Nala

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<223> Asn in position 28 is amidated

<400> 133
Ala Gly Asp Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Amino Acid Sequence

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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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 Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Met Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Ala
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Amino Acid Sequence

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Ala Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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Amino Acid Sequence

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
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<400> 163

Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<210> 164

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Amino Acid Sequence

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<222> (28)

<223> Asn in position 28 is amidated

<400> 164

Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
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Amino Acid Sequence

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<222> (28)

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<400> 165

Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Ala Leu Phe Ile Glu Trp Leu Lys Asn
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Amino Acid Sequence

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<222> (28)

<223> Asn in position 28 is amidated

<400> 166

Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu

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|---|---|----|----|
| 1 | 5 | 10 | 15 |
|---|---|----|----|

Glu Ala Val Ala Leu Phe Ile Glu Phe Leu Lys Asn
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<210> 167
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 Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15

Glu Ala Val Arg Ala Phe Ile Glu Trp Leu Lys Asn
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 Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15

Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
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<400> 169

Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Ile Glu Trp Leu Lys Asn
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Amino Acid Sequence

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<223> Xaa in position 22 stands for Nala

<220>

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<222> (28)

<223> Asn in position 28 is amidated

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
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Amino Acid Sequence

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
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Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn
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Amino Acid Sequence

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
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1 5 10 15

Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
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1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
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1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Ala Lys Asn
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn
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<400> 181
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Ala Asn
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Amino Acid Sequence

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
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Amino Acid Sequence

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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Ala
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
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<221> AMIDATION
<222> (38)
<223> Pro in position 38 is amidated

<400> 185
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro
35

<210> 186
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (38)
<223> Pro in position 38 is amidated

<400> 186
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro
35

<210> 187
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (37)
<223> Pro in position 37 is amidated

<400> 187
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro
35

<210> 188
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (36)
<223> Pro in position 36 is amidated

<400> 188
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro
35

<210> 189
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (36)
<223> Pro in position 36 is amidated

<400> 189
Ala Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu

1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala Pro
 35

<210> 190
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (35)
 <223> Ala in position 35 is amidated

<400> 190
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala
 35

<210> 191
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> AMIDATION
 <222> (35)
 <223> Ala in position 35 is amidated

<400> 191
 His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
 20 25 30

Ser Gly Ala
 35

<210> 192
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
<221> AMIDATION
<222> (34)
<223> Gly in position 34 is amidated

<400> 192
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly

<210> 193
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (33)
<223> Ser in position 33 is amidated

<400> 193
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser

<210> 194
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (32)
<223> Ser in position 32 is amidated

<400> 194
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

<210> 195
<211> 32
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (32)

<223> Ser in position 32 is amidated

<400> 195

His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

<210> 196

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (31)

<223> Pro in position 31 is amidated

<400> 196

His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro
20 25 30

<210> 197

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (30)

<223> Gly in position 30 is amidated

<400> 197

His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly
20 25 30

<210> 198

<211> 29

<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 198
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
20 25

<210> 199
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position 31 stands for tPro

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa in positions 36-38 stands for tPro

<220>
<221> AMIDATION
<222> (38)
<223> tPro in position 38 is amidated

<400> 199
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30
Ser Gly Ala Xaa Xaa Xaa
35

<210> 200
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (36)..(38)

<223> Xaa in positions 36-38 stands for tPro

<220>

<221> AMIDATION

<222> (38)

<223> tPro in position 38 is amidated

<400> 200

His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 201

<211> 37

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (31)

<223> Xaa in position 31 stands for Nme

<220>

<221> VARIANT

<222> (36)..(37)

<223> Xaa in positions 36-37 stands for Nme

<220>

<221> AMIDATION

<222> (37)

<223> Nme in position 37 is amidated

<400> 201

His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa
35

<210> 202

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (31)

<223> Xaa in position 31 stands for hPro

<220>
<221> VARIANT
<222> (36)
<223> Xaa in position 36 stands for hPro

<220>
<221> AMIDATION
<222> (36)
<223> hPro in position 36 is amidated

<400> 202
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30
Ser Gly Ala Xaa
35

<210> 203
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (35)
<223> Ala in position 35 is amidated

<400> 203
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala
35

<210> 204
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> AMIDATION
<222> (30)
<223> Gly in position 30 is amidated

<400> 204
His Gly Asp Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
Page 97

20

25

30

<210> 205

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 205

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30Ser Gly Ala Pro Pro Pro Ser
35

<210> 206

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 206

Ala Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30Ser Gly Ala Pro Pro Pro Ser
35

<210> 207

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
 <221> VARIANT
 <222> (26)
 <223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

 <220>
 <221> AMIDATION
 <222> (27)
 <223> Asn in position 27 is amidated

 <400> 207
 Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
 1 5 10 15
 Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn
 20 25

 <210> 208
 <211> 27
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> VARIANT
 <222> (1)
 <223> Xaa in position 1 stands for
 4-Imidazolylpropionyl-Gly

 <220>
 <221> VARIANT
 <222> (26)
 <223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

 <220>
 <221> AMIDATION
 <222> (27)
 <223> Asn in position 27 is amidated

 <400> 208
 Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
 1 5 10 15
 Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn
 20 25

 <210> 209
 <211> 29
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> VARIANT
 <222> (1)
 <223> Xaa in position 1 stands for

4-Imidazolylpropionyl-Gly

<220>

<221> VARIANT

<222> (26)

<223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

<220>

<221> AMIDATION

<222> (29)

<223> Gly in position 29 is amidated

<400> 209

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn Gly Gly
20 25

<210> 210

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>

<221> VARIANT

<222> (26)

<223> Xaa in position 26 stands for Lys-NH(epsilon) octanoyl

<220>

<221> AMIDATION

<222> (29)

<223> Gly in position 29 is amidated

<400> 210

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn Gly Gly
20 25

<210> 211

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 stands for

4-Imidazolylpropionyl-Gly

<220>

<221> VARIANT

<222> (27)

<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>

<221> AMIDATION

<222> (27)

<223> Lys-NH(epsilon) octanoyl in position 27 is amidated

<400> 211

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa
20 25

<210> 212

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>

<221> VARIANT

<222> (27)

<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>

<221> AMIDATION

<222> (27)

<223> Lys-NH(epsilon) octanoyl

<400> 212

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa
20 25

<210> 213

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 stands for

4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 213
Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15
Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa Gly Gly
20 25

<210> 214
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 stands for
4-Imidazolylpropionyl-Gly

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (29)
<223> Gly in position 29 is amidated

<400> 214
Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15
Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa Gly Gly
20 25

<210> 215
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

<400> 215
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn
 20 25

<210> 216
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (27)
 <223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
 <221> AMIDATION
 <222> (28)
 <223> Asn in position 28 is amidated

<400> 216
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn
 20 25

<210> 217
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

<220>
 <221> VARIANT
 <222> (27)
 <223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
 <221> AMIDATION
 <222> (30)
 <223> Gly in position 30 is amidated

<400> 217
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn Gly Gly
 20 25 30

<210> 218
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (27)
<223> Xaa in position 27 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (30)
<223> Gly in position 30 is amidated

<400> 218
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn Gly Gly
20 25 30

<210> 219
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT
<222> (28)
<223> Xaa in position 28 stands for Lys-NH(epsilon) octanoyl

<220>
<221> AMIDATION
<222> (28)
<223> Lys-NH(epsilon) octanoyl in position 28 is amidated

<400> 219
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa
20 25

<210> 220
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> VARIANT

<222> (28)
 <223> Xaa in position 28 stands for Lys-NH(epsilon) octanoyl

 <220>
 <221> AMIDATION
 <222> (28)
 <223> Lys-NH(epsilon) octanoyl in position 28 is amidated

 <400> 220
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa
 20 25

 <210> 221
 <211> 30
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> VARIANT
 <222> (28)
 <223> Xaa in position 28 stands for Lys-NH(epsilon) octanoyl

 <220>
 <221> AMIDATION
 <222> (30)
 <223> Gly in position 30 is amidated

 <400> 221
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa Gly Gly
 20 25 30

 <210> 222
 <211> 30
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

 <220>
 <221> VARIANT
 <222> (28)
 <223> Xaa in position 28 stands for Lys-NH(epsilon) octanoyl

 <220>
 <221> AMIDATION
 <222> (30)
 <223> Gly in position 30 is amidated

 <400> 222
 Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa Gly Gly
20 25 30

<210> 223
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (12)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 223
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 224
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (27)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 224
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 225

<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (2)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 225
His Lys Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 226
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (5)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 226
His Gly Glu Gly Lys Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 227
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (8)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 227
His Gly Glu Gly Thr Phe Thr Lys Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 228
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (10)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 228
His Gly Glu Gly Thr Phe Thr Ser Asp Lys Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 229
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>
<221> MOD_RES
<222> (11)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 229
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Lys Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

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Amino Acid Sequence

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<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 230
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Lys Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 231
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<213> Artificial Sequence

<220>
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Amino Acid Sequence

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<221> MOD_RES
<222> (16)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 231
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Lys
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 232
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<212> PRT
<213> Artificial Sequence

<220>
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Amino Acid Sequence

<220>
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<222> (17)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)
<223> Ser in position 39 is amidated

<400> 232
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Lys Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 233
<211> 39
<212> PRT
<213> Artificial Sequence

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Amino Acid Sequence

<220>
<221> MOD_RES
<222> (19)
<223> Lys-PEG

<220>
<221> AMIDATION
<222> (39)

<223> Ser in position 39 is amidated

<400> 233

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Lys Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 234

<211> 39

<212> PRT

<213> Artificial Sequence

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Amino Acid Sequence

<220>

<221> MOD_RES

<222> (21)

<223> Lys-PEG

<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 234

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Lys Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 235

<211> 39

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Amino Acid Sequence

<220>

<221> MOD_RES

<222> (24)

<223> Lys-PEG

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<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 235

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu

1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Lys Trp Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly Ala Pro Pro Pro Ser
 35

<210> 236
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 Amino Acid Sequence

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 <221> MOD_RES
 <222> (25)
 <223> Lys-PEG

<220>
 <221> AMIDATION
 <222> (39)
 <223> Ser in position 39 is amidated

<400> 236
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Lys Leu Lys Asn Gly Gly Pro Ser
 20 25 30
 Ser Gly Ala Pro Pro Pro Ser
 35

<210> 237
 <211> 39
 <212> PRT
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence: Synthetic
 Amino Acid Sequence

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 <222> (28)
 <223> Lys-PEG

<220>
 <221> AMIDATION
 <222> (39)
 <223> Ser in position 39 is amidated

<400> 237
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1 5 10 15
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Lys Gly Gly Pro Ser
 20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 238

<211> 39

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

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<221> MOD_RES

<222> (29)

<223> Lys-PEG

<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 238

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Lys Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 239

<211> 39

<212> PRT

<213> Artificial Sequence

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Amino Acid Sequence

<220>

<221> MOD_RES

<222> (30)

<223> Lys-PEG

<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 239

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Lys Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

SEQUENCE LISTING

<110> ~~AMYLIN PHARMACEUTICALS, INC.~~ YOUNG, ANDREW
~~GEDULIN, BRONISLAVA~~

<120> METHODS FOR GLUCAGON SUPPRESSION

<130> 030639.0031.UTL (249/167 US)

<140> 09/889,331

<141> 2001-07-13

<150> PCT/US00/00942

<151> 2000-01-14

<150> 60/116,380

<151> 1999-01-14

<150> 60/132,017

<151> 1999-04-30

<150> 60/175,365

<151> 2000-01-10

~~<150> 60/116,380~~

~~<151> 1999-01-14~~

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<170> FastSEQ for Windows Version 4.0
Microsoft Word 97

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<220>

<221> AMIDATION

<222> (39)

<223> Ser in position 39 is amidated

<400> 1

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Ser | Asp | Gly | Thr | Phe | Thr | Ser | Asp | Leu | Ser | Lys | Gln | Met | Glu | Glu |
| 1 | | | | | 5 | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ala | Val | Arg | Leu | Phe | Ile | Glu | Trp | Leu | Lys | Asn | Gly | Gly | Pro | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Ser | Gly | Ala | Pro | Pro | Pro | Ser |
| | | | 35 | | | |

<210> 2

<211> 39

<212> PRT

<213> Heloderma Suspectum

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 40
<211> 39
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<213> Artificial Sequence

<220>
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Construct

<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is N-methylalanine

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is N-methylalanine

<220>
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<222> (39)
<223> AMIDATION, Position 39 is Ser-NH2

<400> 40
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 41
<211> ~~2938~~
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Construct

<220>
<221> VARIANT
<222> (1)
<223> Xaa at position 1 is His, Arg or Tyr

<220>
<221> VARIANT

<222> (2)
<223> Xaa at position 2 is Ser, Gly Ala, or Thr

<220>
<221> VARIANT
<222> (3)
<223> Xaa at position 3 is Asp or Glu

<220>
<221> VARIANT
<222> (5)
<223> Xaa at position 5 is Ala or Thr

<220>
<221> VARIANT
<222> (6)
<223> Xaa at position 6 is Ala, Phe, Tyr or
naphthylalanine

<220>
<221> VARIANT
<222> (7)
<223> Xaa at position 7 is Thr or Ser

<220>
<221> VARIANT
<222> (8)
<223> Xaa at position 8 is Ala, Ser or Thr

<220>
<221> VARIANT
<222> (9)
<223> Xaa at position 9 is Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa at position 10 is Ala, Leu, Ile, Val,
pentylglycine, or Met

<220>
<221> VARIANT
<222> (11)
<223> Xaa at position 11 is Ala or Ser

<220>
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<222> (12)
<223> Xaa at position 12 is Ala or Lys

<220>
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<222> (13)
<223> Xaa at position 13 is Ala or Gln

<220>
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<222> (14)
<223> Xaa at position 14 is Ala, Leu, Ile,
 pentylglycine, Val or Met

<220>
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<222> (15)
<223> Xaa at position 15 is Ala or Glu

<220>
<221> VARIANT
<222> (16)..(17)
<223> Xaa at position 16 and 17 is Ala or Glu

<220>
<221> VARIANT
<222> (19)
<223> Xaa at position 19 is Ala or Val

<220>
<221> VARIANT
<222> (20)
<223> Xaa at position 20 is Ala or Arg

<220>
<221> VARIANT
<222> (21)
<223> Xaa at position 21 is Ala or Leu

<220>
<221> VARIANT
<222> (22)
<223> Xaa at position 22 is Ala, Phe, Tyr, or
 naphthylalanine

<220>
<221> VARIANT
<222> (23)
<223> Xaa at position 23 is Ile, Val, Leu,
 pentylglycine, tert-butylglycine, or Met

<220>
<221> VARIANT
<222> (24)
<223> Xaa at position 24 is Ala, Glu, or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa at position 25 is Ala, Trp, Phe, Tyr or
 naphthylalanine

<220>
<221> VARIANT
<222> (26)
<223> Xaa at position 26 is Ala or Leu

<220>
<221> VARIANT
<222> (27)
<223> Xaa at position 27 is Ala or Lys

<220>
<221> VARIANT
<222> (28)
<223> Xaa at position 28 is Ala or Asn and is optionally
amidated

<220>
<221> VARIANT
<222> (29)

<223> may be absent and if present is optionally amidated

<220>
<221> VARIANT
<222> (30)
<223> may be absent and if present is optionally amidated

<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 29 is OH, NH2, Gly OH, Gly NH2,
Gly Gly OH, Gly Gly NH2 and further as in the
specification 31 is Pro, homoproline, thioproline,
N-alkylalanine or absent and is optionally amidated

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<222> (32)
<223> may be absent and if present is optionally amidated

<220>
<221> VARIANT
<222> (33)
<223> may be absent and if present is optionally amidated

<220>
<221> VARIANT
<222> (34)
<223> may be absent and if present is optionally amidated

<220>
<221> VARIANT
<222> (35)
<223> may be absent and if present is optionally amidated

<220>
<221> VARIANT
<222> (36)
<223> Xaa at position 36 is Pro, homoproline, thioproline,
N-alkylalanine or absent and is optionally amidated

<220>

<221> VARIANT

<222> (37)

<223> Xaa at position 37 is Pro, homoproline, thioproline,
N-alkylalanine or absent and is optionally amidated

<220>

<221> VARIANT

<222> (38)

<223> Xaa at position 38 is Pro, homoproline, thioproline,
N-alkylalanine or absent and is optionally amidated

<400> 41

Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 42

<211> 2939

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa at position 1 is His, Arg, Tyr, Ala,
norvaline, Val, or norleucine

<220>

<221> VARIANT

<222> (2)

<223> Xaa at position 2 is Ser, Gly, Ala, or Thr

<220>

<221> VARIANT

<222> (3)

<223> Xaa at position 3 is Ala, Asp, or Glu

<220>

<221> VARIANT

<222> (4)

<223> Xaa at position 4 is Ala, norvaline, Val,
norleucine or Gly

<220>

<221> VARIANT

<222> (5)

<223> Xaa at position 5 is Ala or Thr

<220>
<221> VARIANT
<222> (6)
<223> Xaa at position 6 is Phe, Tyr, or naphthylalanine

<220>
<221> VARIANT
<222> (7)
<223> Xaa at position 7 is Thr or Ser

<220>
<221> VARIANT
<222> (8)
<223> Xaa at position 8 is Ala, Ser, or Thr

<220>
<221> VARIANT
<222> (9)
<223> Xaa at position 9 is Ala, norvaline, norleucine,
Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa at position 10 is Ala, Leu, Ile, Val,
pentylglycine, or Met

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<222> (11)
<223> Xaa at position 11 is Ala or Ser

<220>
<221> VARIANT
<222> (12)
<223> Xaa at position 12 is Ala or Lys

<220>
<221> VARIANT
<222> (13)
<223> Xaa at position 13 is Ala or Gln

<220>
<221> VARIANT
<222> (14)
<223> Xaa at position 14 is Ala, Leu, Ile,
pentylglycine, Val or Met

<220>
<221> VARIANT
<222> (15)..(17)
<223> Xaa at positions 15, 16, and 17 is Ala or Glu

<220>
<221> VARIANT

<222> (19)
 <223> Xaa at position 19 is Ala or Val

 <220>
 <221> VARIANT
 <222> (20)
 <223> Xaa at position 20 is Ala or Arg

 <220>
 <221> VARIANT
 <222> (21)
 <223> Xaa at position 21 is Ala or Leu

 <220>
 <221> VARIANT
 <222> (22)
 <223> Xaa at position 22 is Phe, Tyr or naphthylalanine

 <220>
 <221> VARIANT
 <222> (23)
 <223> Xaa at position 23 is Ile, Val, Leu,
 pentylglycine, tert-butylglycine or Met

 <220>
 <221> VARIANT
 <222> (24)
 <223> Xaa at position 24 is Ala, Glu or Asp

 <220>
 <221> VARIANT
 <222> (25)
 <223> Xaa at position 25 is Ala, Trp, Phe, Tyr or
 naphthylalanine

 <220>
 <221> VARIANT
 <222> (26)
 <223> Xaa at position 26 is Ala or Leu

 <220>
 <221> VARIANT
 <222> (27)
 <223> Xaa at position 27 is Ala or Lys

 <220>
 <221> VARIANT
 <222> (28)
 <223> Xaa at position 28 is Ala or Asn

 <220>
 <221> VARIANT
 <222> (29)
 <223> may be absent and is optionally amidated
 <220>

<221> VARIANT
<222> (30)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 29 is OH, NH₂, Gly OH, Gly NH₂,
Gly Gly OH, Gly Gly NH₂ and further as indicated
in the specification 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent

<220>
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<222> (32)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (33)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (34)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (35)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (36)
<223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>
<221> VARIANT
<222> (37)
<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>
<221> VARIANT
<222> (38)
<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>
<221> VARIANT
<222> (39)
<223> Xaa at position 39 is Ser, Tyr or absent and is optionally

amidated

<400> 42

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 43

<211> ~~2938~~

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa at position 1 is His or Arg

<220>

<221> VARIANT

<222> (2)

<223> Xaa at position 2 is Gly or Ala

<220>

<221> VARIANT

<222> (3)

<223> Xaa at position 3 is Asp or Glu

<220>

<221> VARIANT

<222> (5)

<223> Xaa at position 5 is Ala or Thr

<220>

<221> VARIANT

<222> (6)

<223> Xaa at position 6 is Ala, Phe, or naphthylalanine

<220>

<221> VARIANT

<222> (7)

<223> Xaa at position 7 is Ser, or Thr

<220>

<221> VARIANT

<222> (8)

<223> Xaa at position 8 is Ala, Ser, or Thr

<220>
<221> VARIANT
<222> (9)
<223> Xaa at position 9 is Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa at position 10 is Ala, Leu, or pentylglycine

<220>
<221> VARIANT
<222> (11)
<223> Xaa at position 11 is Ala or Ser

<220>
<221> VARIANT
<222> (12)
<223> Xaa at position 12 is Ala or Lys

<220>
<221> VARIANT
<222> (13)
<223> Xaa at position 13 Ala or Gln

<220>
<221> VARIANT
<222> (14)
<223> Xaa at position 14 is Ala, Leu or pentylglycine

<220>
<221> VARIANT
<222> (15)..(17)
<223> Xaa at positions 15, 16, and 17 is Ala or Glu

<220>
<221> VARIANT
<222> (19)
<223> Xaa at position 19 is Ala or Val

<220>
<221> VARIANT
<222> (20)
<223> Xaa at position 20 is Ala or Arg

<220>
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<222> (21)
<223> Xaa at position 21 is Ala or Leu

<220>
<221> VARIANT
<222> (22)
<223> Xaa at position 22 is Phe or naphthylalanine

<220>

<221> VARIANT
<222> (23)
<223> Xaa at position 23 is Ile, Val or
tert-butylglycine

<220>
<221> VARIANT
<222> (24)
<223> Xaa at position 24 is Ala, Glu or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa at position 25 is Ala, Trp or Phe

<220>
<221> VARIANT
<222> (26)
<223> Xaa at position 26 is Ala or Leu

<220>
<221> VARIANT
<222> (27)
<223> Xaa at position is Ala or Lys

<220>
<221> VARIANT
<222> (28)
<223> Xaa at position 28 is Ala or Asn

<220>
<221> VARIANT
<222> (29)

| <223> may be absent and is optionally amidated

| <220>
| <221> VARIANT
| <222> (30)
| <223> may be absent and is optionally amidated

| <220>
| <221> VARIANT
| <222> (31)
| <223> Xaa at position 29 is OH, NH₂, Gly OH, Gly NH₂,
Gly Gly OH, Gly Gly NH₂, and further as indicated
in the specification 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

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| <221> VARIANT
| <222> (32)
| <223> may be absent and is optionally amidated

| <220>
| <221> VARIANT

<222> (33)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (34)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (35)
<223> may be absent and is optionally amidated

<220>
<221> VARIANT
<222> (36)
<223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>
<221> VARIANT
<222> (37)
<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>
<221> VARIANT
<222> (38)
<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<400> 43
Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 44
<211> ~~2939~~
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Construct

<220>
<221> VARIANT
<222> (1)

<223> Xaa in position 1 is His or Ala

<220>

<221> VARIANT

<222> (2)

<223> Xaa in position 2 is Gly or Ala

<220>

<221> VARIANT

<222> (3)

<223> Xaa in position 3 is Ala, Asp or Glu

<220>

<221> VARIANT

<222> (4)

<223> Xaa in position 4 is Ala or Gly

<220>

<221> VARIANT

<222> (5)

<223> Xaa in position 5 is Ala or Thr

<220>

<221> VARIANT

<222> (6)

<223> Xaa in position 6 is Phe or naphthylalanine

<220>

<221> VARIANT

<222> (7)

<223> Xaa in position 7 is Thr or Ser

<220>

<221> VARIANT

<222> (8)

<223> Xaa in position 8 is Ala, Ser or Thr

<220>

<221> VARIANT

<222> (9)

<223> Xaa in position 9 is Ala, Asp or Glu

<220>

<221> VARIANT

<222> (10)

<223> Xaa in position 10 is Ala, Leu or pentylglycine

<220>

<221> VARIANT

<222> (11)

<223> Xaa in position 11 is Ala or Ser

<220>

<221> VARIANT

<222> (12)

<223> Xaa in position 12 is Ala or Lys

<220>
<221> VARIANT
<222> (13)
<223> Xaa in position 13 is Ala or Gln

<220>
<221> VARIANT
<222> (14)
<223> Xaa in position 14 is Ala, Leu, Met or
pentylglycine

<220>
<221> VARIANT
<222> (15)..(17)
<223> Xaa in positions 15, 16 & 17 is Ala or Glu

<220>
<221> VARIANT
<222> (19)
<223> Xaa in position 19 is Ala or Val

<220>
<221> VARIANT
<222> (20)
<223> Xaa in position 20 is Ala or Arg

<220>
<221> VARIANT
<222> (21)
<223> Xaa in position 21 is Ala or Leu

<220>
<221> VARIANT
<222> (22)
<223> Xaa at position 22 is Phe or naphthylalanine

<220>
<221> VARIANT
<222> (23)
<223> Xaa at position 23 is Ile, Val or
tert-butylglycine

<220>
<221> VARIANT
<222> (24)
<223> Xaa at position 24 is Ala, Glu or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa at position 25 is Ala, Trp or Phe

<220>
<221> VARIANT
<222> (26)

<223> Xaa at position 26 is Ala or Leu

<220>

<221> VARIANT

<222> (27)

<223> Xaa at position 27 is Ala or Lys

<220>

<221> VARIANT

<222> (28)

<223> Xaa at position 28 is Ala or Asn

<220>

<221> VARIANT

<222> (29)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (30)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (31)

<223> Xaa at position 29 is OH, NH₂, Gly OH, Gly NH₂,
Gly Gly OH, Gly Gly NH₂ and further as indicated
in the specification

31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline

N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (32)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (33)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (34)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (35)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (36)

<223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline

N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (37)

<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (38)

<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (39)

<223> may be absent and is optionally amidated

<400> 44

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 45

<211> ~~28~~38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 is His, Arg, Tyr or
4-imidazopropionyl

<220>

<221> VARIANT

<222> (2)

<223> Xaa in positon 2 is Ser, Gly, Ala or Thr

<220>

<221> VARIANT

<222> (3)

<223> Xaa in position 3 is Asp or Glu

<220>

<221> VARIANT

<222> (5)

<223> Xaa in position 5 is Ala or Thr

<220>

<221> VARIANT

<222> (6)

<223> Xaa in position 6 is Ala, Phe, Tyr or
naphthylalanine

<220>

<221> VARIANT

<222> (7)

<223> Xaa in position 8 is Thr or Ser

<220>

<221> VARIANT

<222> (8)

<223> Xaa in position 8 is Ala, Ser or Thr

<220>

<221> VARIANT

<222> (9)

<223> Xaa in position 9 is Asp or Glu

<220>

<221> VARIANT

<222> (10)

<223> Xaa in position 10 is Ala, Leu, Ile, Val,
pentylglycine or Met ,

<220>

<221> VARIANT

<222> (11)

<223> Xaa in position 11 is Ala or Ser

<220>

<221> VARIANT

<222> (12)

<223> Xaa in position 12 is Ala or Lys

<220>

<221> VARIANT

<222> (13)

<223> Xaa in position 13 is Ala or Gln

<220>

<221> VARIANT

<222> (14)

<223> Xaa in position 14 is Ala, Leu, Ile,
pentylglycine, Val or Met

<220>

<221> VARIANT

<222> (15)..(17)

<223> Xaa in positions 15, 16 & 17 is Ala or Glu

<220>

<221> VARIANT

<222> (19)

<223> Xaa in position 19 is Ala or Val

<220>

<221> VARIANT

<222> (20)

<223> Xaa in position 20 is Ala or Arg

<220>

<221> VARIANT

<222> (21)

<223> Xaa in position 21 is Ala, Leu, Lys-NH₃-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkanoyl

<220>

<221> VARIANT

<222> (22)

<223> Xaa in position 22 is Phe, Tyr, or naphthylalanine

<220>

<221> VARIANT

<222> (23)

<223> Xaa at position 23 is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met

<220>

<221> VARIANT

<222> (24)

<223> Xaa at position 24 is Ala, Glu or Asp

<220>

<221> VARIANT

<222> (25)

<223> Xaa at position 25 is Ala, Trp, Phe, Tyr or naphthylalanine

<220>

<221> VARIANT

<222> (26)

<223> Xaa at position 26 is Ala or Leu

<220>

<221> VARIANT

<222> (27)

<223> Xaa at position 27 is ~~Lys-, Asn, Asn-Ala, Lys-, -NH-epsilon-R~~
~~Lys-NH₃-R Asn, Asn-Lys-NH₃-R, Lys-NH₃-R Ala,~~
~~Ala-Lys-NH₃-R,~~ where R is Lys, Arg, C1-C10 straight chain
or

branched alkanoyl or cycloalkylalkanoyl and is
optionally amidated

<220>

<221> VARIANT

<222> (28)

<223> Xaa at position 28 is OH, NH₂, Gly-OH, Gly-NH₂, Lys, Asn, Ala, Lys-NH-
epsilon-R

Gly-Gly-OH, Gly-Gly-NH₂ and further as indicated
in the specification

where R is Lys, Arg, C1-C10 straight chain or
branched alkanoyl or cycloalkylalkanoyl and is
optionally amidated

<220>

<221> VARIANT

<222> (29)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (30)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (31)

<223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (32)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (33)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (34)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (35)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (36)

<223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (37)

<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (38)

<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<400> 45

Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 46

<211> ~~2839~~

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 is His, Arg, Tyr, Ala,
norvaline, Val norleucine, or 4-imidazopropionyl

<220>

<221> VARIANT

<222> (2)

<223> Xaa in position 2 is Ser, Gly, Ala, or Thr

<220>

<221> VARIANT

<222> (3)

<223> Xaa in position 3 is Ala, Asp, or Glu

<220>

<221> VARIANT

<222> (4)

<223> Xaa in position 4 is Ala, norvaline, Val,
norleucine or Gly

<220>

<221> VARIANT
<222> (5)
<223> Xaa in position 5 is Ala or Thr

<220>
<221> VARIANT
<222> (6)
<223> Xaa in position 6 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (7)
<223> Xaa in position 7 is Thr or Ser

<220>
<221> VARIANT
<222> (8)
<223> Xaa in position 8 is Ala, Ser or Thr

<220>
<221> VARIANT
<222> (9)
<223> Xaa in position 9 is Ala, Norvaline, Val,
Norleucine, Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa in position 10 is Ala, Leu, Ile, Val
pentylglycine or Met

<220>
<221> VARIANT
<222> (11)
<223> Xaa in position 11 is Ala or Ser

<220>
<221> VARIANT
<222> (12)
<223> Xaa in position 12 is Ala or Lys

<220>
<221> VARIANT
<222> (13)
<223> Xaa in position 13 is Ala or Gln

<220>
<221> VARIANT
<222> (14)
<223> Xaa in position 14 is Ala, Leu, Ile, pentylglycine
Val or Met

<220>
<221> VARIANT
<222> (15)..(17)
<223> Xaa in positions 15, 16 & 17 stands for Ala or Glu

<220>
<221> VARIANT
<222> (19)
<223> Xaa in position 19 is Ala or Val

<220>
<221> VARIANT
<222> (20)
<223> Xaa in position 20 is Ala or Arg

<220>
<221> VARIANT
<222> (21)
<223> Xaa in position 21 is Ala, Leu or Lys-NH3 where R
is Lys, Arg, C1-C10 straight chain or branched
alkanoyl or cycloalylel-alkanoyl

<220>
<221> VARIANT
<222> (22)
<223> Xaa at position 22 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (23)
<223> Xaa at position 23 is Ile, Val, Leu, pentylglycine,
tert-butylglycine or Met

<220>
<221> VARIANT
<222> (24)
<223> Xaa at position 24 is Ala, Glu or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa at position 25 is Ala, Trp, Phe, Tyr
or naphthylalanine

<220>
<221> VARIANT
<222> (26)
<223> Xaa at position 26 is Ala or Leu

<220>
<221> VARIANT
<222> (27)
<223> Xaa at position 27 is ~~Lys-, Asn, Asn-Ala, Lys-, -NH-epsilon-R~~
~~Lys-NH3-R Asn, Asn-Lys-NH3-R, Lys-NH3-R Ala,~~
~~Ala-Lys-NH3-R,~~ where R is Lys, Arg, C1-C10 straight
or
branched alkanoyl or cycloalkylalkanoyl and is
optionally amidated

chain

<220>
<221> VARIANT
<222> (28)

<223> Xaa at position 28 is OH, NH₂, Gly-OH, Gly-NH₂, Lys, Asn, Ala, Lys-NH-epsilon-R

Gly-Gly-OH, Gly-Gly-NH₂ and further as indicated in the specification

where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl and is optionally amidated

<220>

<221> VARIANT

<222> (29)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (30)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (31)

<223> Xaa at position 31 is Pro, homoproline, 3Hyp, 4Hyp, thiproline N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent and is optionally amidated

<220>

<221> VARIANT

<222> (32)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (33)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (34)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (35)

<223> may be absent and is optionally amidated

<220>

<221> VARIANT

<222> (36)

<223> Xaa at position 36 is Pro, homoproline, 3Hyp, 4Hyp, thiproline N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent and is optionally amidated

<220>

<221> VARIANT

<222> (37)

<223> Xaa at position 37 is Pro, homoproline, 3Hyp, 4Hyp, thiproline N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent

and is optionally amidated

<220>

<221> VARIANT

<222> (38)

<223> Xaa at position 38 is Pro, homoproline, 3Hyp, 4Hyp, thiproline
N-alkylglycine, N-alkylpentylglycine N-alkylalanine or absent
and is optionally amidated

<220>

<221> VARIANT

<222> (39)

<223> Xaa at position 39 is Ser, Tyr or absent and is optionally
amidated

<400> 46

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 47

<211> ~~40~~39

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Construct

<220>

<221> VARIANT

<222> (1)

<223> Xaa in position 1 is His, Arg or Thr

<220>

<221> VARIANT

<222> (2)

<223> Xaa in position 2 is Ser, Gly, Ala, or Thr

<220>

<221> VARIANT

<222> (3)

<223> Xaa in position 3 is Asp or Glu

<220>

<221> VARIANT

<222> (6)

<223> Xaa in position 6 is Phe, Tyr or naphthalanine

<220>
<221> VARIANT
<222> (7)
<223> Xaa in position 7 is Thr or Ser

<220>
<221> VARIANT
<222> (8)
<223> Xaa in position 8 is Ser or Thr

<220>
<221> VARIANT
<222> (9)
<223> Xaa in position 9 is Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa in position 10 is Leu, Ile, Val, pentylglycine
or Met

<220>
<221> VARIANT
<222> (14)
<223> Xaa at position 14 is Leu, Ile, pentylglycine,
Val or Met

<220>
<221> VARIANT
<222> (22)
<223> Xaa in position 22 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (23)
<223> Xaa in position 23 is Ile, Val, Leu,
pentylglycine, tert-butylglycine or Met

<220>
<221> VARIANT
<222> (24)
<223> Xaa in position 24 is Glu or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa in position 25 is Trp, Phe, Tyr or
naphthylalanine

<220>
<221> VARIANT
<222> (31)
<223> Xaa in position 31 is independently Pro,
homoproline, 3-hydroxyproline, 4-hydroxyproline,
thiopline, N-alkylglycine, N-alkylpentylglycine
or N-alkylalanine

<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa in positions 36, 37 & 38 is independently Pro,
homoproline, 3-hydroxyproline, 4-hydroxyproline,
thioprolin, N-alkylglycine, N-alkylpentylglycine
or N-alkylalanine

<220>
<221> VARIANT
<222> (39)
<223> Xaa in position 39 is Ser, Thr or Tyr<220> and is
~~<221> VARIANT~~
~~<222> (40)~~
~~<223> Xaa in position 40 is OH or NH₂, with the~~
~~proviso that the compound does not have the~~
~~formula of either SEQ. ID. NOS. 1 or 2~~
~~optionally amidated~~

<400> 47
Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser
20 25 30
Ser Gly Ala Xaa Xaa Xaa Xaa-Xaa
35 40

<210> 48
<211> ~~4039~~
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Construct

<220>
<221> VARIANT
<222> (1)
<223> Xaa in position 1 is His, Arg, Tyr or
4-imidazopropionyl

<220>
<221> VARIANT
<222> (2)
<223> Xaa in position 2 is Ser, Gly, Ala or Thr

<220>
<221> VARIANT
<222> (3)
<223> Xaa in position 3 is Asp or Glu

<220>

<221> VARIANT
<222> (6)
<223> Xaa in position 6 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (7)..(8)
<223> Xaa in positions 7 & 8 is Thr or Ser

<220>
<221> VARIANT
<222> (9)
<223> Xaa in position 9 is Asp or Glu

<220>
<221> VARIANT
<222> (10)
<223> Xaa in position 10 is Leu, Ile, Val, pentylglycine
or Met

<220>
<221> VARIANT
<222> (14)
<223> Xaa at position 14 is Leu, Ile, pentylglycine,
Val or Met

<220>
<221> VARIANT
<222> (22)
<223> Xaa in position 22 is Phe, Tyr or naphthylalanine

<220>
<221> VARIANT
<222> (23)
<223> Xaa in position 23 is Ile, Val, Lu, pentylglycine,
tert-butylglycine or Met

<220>
<221> VARIANT
<222> (24)
<223> Xaa in position 24 is Glu or Asp

<220>
<221> VARIANT
<222> (25)
<223> Xaa in position 25 is Trp, Phe, Tyr, or
naphthylalanine

<220>
<221> VARIANT
<222> (27)
<223> Xaa ~~inat~~ position 27 is Lys-, Asn-Lys, Ala, Lys-NH₃-epsilon-R-Asn,
Asn-Lys-NH₃-R where R is Lys, Arg, C1-C10 straight chain or
chain or branched alkanoyl or cycloalkylalkanoyl

<220>

<221> VARIANT

<222> (3028)

<223> Xaa at position 28 is Lys, Asn, Ala, Lys-NH-epsilon-R
where R is Lys, Arg, C1-C10 straight chain or
branched alkanoyl or cycloalkylalkanoyl

<220>

<221> VARIANT

<222> (31)

<223> Xaa in position is independently Pro,
homoproline, 3-hydroxyproline, 4-hydroxyproline,
thiopline, N-alkylglycine, N-alkylpentylglycine
or N-alkylalanine

<220>

<221> VARIANT

<222> (3536)..(3938)

<223> Xaa in positions 3536-3938 is independently Pro,
homoproline, 3-hydroxyproline, 4-hydroxyproline,
thiopline, N-alkylglycine, N-alkylpentylglycine
or N-alkylalanine

<220>

<221> VARIANT

<222> (4039)

<223> Xaa in position 40 is OH or NH2, with the proviso39 is Ser, Thr or Tyr
and is optionally
that the compound does not have the formula of
either SEQ. ID. NOS. 1 or 2
amidated

<400> 48

Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Xaa Xaa Gly Gly Xaa Ser Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa Xaa Xaa
35 40

<210> 49

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Amino Acid Sequence

<220>

<221> AMIDATION

<222> (30)

<223> Gly in position 30 is amidated